INVESTIGATOR'S ANNUAL REPORT

National Park Service

All or some of the information provided may be available to the public

Reporting Year: 1998	**Park:** Shenandoah NP
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Permit#:
SHEN1998N-224

Park-assigned Study Id. #:
unknown

Project Title:
Assessment Of Biodiversity Associated With Eastern Hemlock Forests

Permit Start Date: Jan 01, 1998	**Permit Expiration Date** Jan 01, 1999
Study Start Date: Jan 01, 1996	**Study End Date** Jan 01, 1998

Study Status:
Completed

Activity Type:
Research

Subject/Discipline:
Ecology (Aquatic, Marine, Terrestrial)

Objectives:
The Pennsylvania State University (Penn State) in cooperation with the National Park Service (Yahner et al. 1996) have initiated a research project to assess the biodiversity associated with hemlock and complementary paired hardwood ecosystems at SHEN. The goals of year two of this project were to (1) assemble and synthesize data collected at two study stands (Limberlost and Matthew's Arm), (2) present data and conclusions in a comprehensive report. ***Specimens collected during sampling are stored as follows: Mammals/amphibians: Shippensburg, PA; Plants: Carnegie Museum; Invertebrates: Frost Museum, Penn State University.***

Findings and Status:
During 1998, we continued to identify, analyze, and interpret the biodiversity data that we collected on the vegetative, invertebrate, mammal, and amphibian communities at SHEN using a variety of field sampling protocols (Mahan et al. 1998). We collected this data in an integrated, systematic manner using the ecosystem profile approach (Mahan et al. 1998). We collected this biodiversity data at a hemlock forest stand (Limberlost)and a complementary, hardwood forest stand (Matthew's Arm) during summer 1997. During 1998, biodiversity data was assembled, synthesized and compared between stands in order to elucidate the unique biodiversity present in hemlock forests. All biodiversity information was entered into our Biodiversity Database that was prepared during year 1 of this project.;The hemlock forest sampled at SHEN had more red-backed salamanders, and red-backed voles than the hardwood stand. The hardwood forest, however, contained a higher diversity of salamanders and mammals. The hemlock forest contained several unique families of invertebrates. For example, numbers of spiders and millipedes were much higher in the hemlock than in the hardwood forest (Sullivan et al. 1998). The hemlock forest at SHEN also supported a classic hemlock ravine tree community with hemlocks, maples, and birches being the primary overstory tree component. The hardwood stand was dominated by oaks, hickories, and maples.;A preliminary version of the final report was submitted to John Karish (NPS, Chief Scientist, University Park, PA). Principal investigators are in the process of revising this report prior to sending it to SHEN for review. In addition, we are trying to secure additional funds to complete the species-level identification of invertebrates collected at SHEN.

For this study, were one or more specimens collected and removed from the park but not destroyed during analyses?	
No	
Funding provided this reporting year by NPS:	**Funding provided this reporting year by other sources:**
88000	0
Fill out the following ONLY IF the National Park Service supported this project in this reporting year by providing money to a university or college	
Full name of college or university:	**Annual funding provided by NPS to university or college this reporting year:**
The Pennsylvania State University	88000